



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0597; Product Identifier 2019-NE-05-AD]

RIN 2120-AA64

Airworthiness Directives; CFM International S.A. Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2019-12-05, which applies to certain CFM International S.A. (CFM) CFM56-5B, CFM56-5C, and CFM56-7B model turbofan engines with a certain rotating air high-pressure turbine (HPT) front seal. AD 2019-12-05 requires replacement of the affected rotating air HPT front seal with a part eligible for installation. The actions required by AD 2019-12-05 are interim and only address the highest risk engines with an affected rotating air HPT front seal that have a specified number of cycles since being reconfigured. This proposed AD would require removal and replacement of the rotating air HPT front seals installed on all CFM CFM56-5B, CFM56-5C, and CFM56-7B model turbofan engines, including engines that have fewer cycles since being reconfigured. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact CFM International Inc., Aviation Operations Center, 1 Neumann Way, M/D Room 285, Cincinnati, OH, 45125; phone: 877-432-3272; fax: 877-432-3329; email: aviation.fleetsupport@ge.com. You may view this referenced service information at the FAA, Engine & Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0597; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Christopher McGuire, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7120; fax: 781-238-7199; email: chris.mcguire@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES

section. Include “Docket No. FAA-2019-0597; Product Identifier 2019-NE-05-AD” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

The FAA will post all comments received, without change, to <http://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this proposed AD.

Discussion

The FAA issued AD 2019-12-05, Amendment 39-19660 (84 FR 28717, June 20, 2019), (“AD 2019-12-05”), for all CFM CFM56-5B, CFM56-5C, and CFM56-7B model turbofan engines with a certain rotating air HPT front seal. AD 2019-12-05 requires replacement of the affected rotating air HPT front seal with a part eligible for installation. AD 2019-12-05 resulted from cracks found in the rotating air HPT front seal. The FAA issued AD 2019-12-05 to prevent failure of the rotating air HPT front seal.

Actions Since AD 2019-12-05 Was Issued

The actions required by AD 2019-12-05 are interim and only address the highest risk engines with an affected rotating air HPT front seal that have a specified number of cycles since being reconfigured. The FAA now proposes to supersede AD 2019-12-05 to require removal and replacement of the rotating air HPT front seals installed on all CFM CFM56-5B, CFM56-5C, and CFM56-7B model turbofan engines, including engines that have fewer cycles since being reconfigured.

Related Service Information

The FAA reviewed CFM Service Bulletin (SB) CFM56-5B S/B 72-1074, Revision 01, dated December 5, 2018; CFM SB CFM56-5C S/B 72-0794, Revision 01,

dated January 2, 2019; and CFM SB CFM56-7B S/B 72-1042, Revision 01, dated January 2, 2019. CFM SB CFM56-5B S/B 72-1074, Revision 01, describes procedures for replacement of the affected rotating air HPT front seal on CFM CFM56-5B model turbofan engines. CFM SB CFM56-5C S/B 72-0794, Revision 01, describes procedures for replacement of the affected rotating air HPT front seal on CFM CFM56-5C model turbofan engines. CFM SB CFM56-7B S/B 72-1042, Revision 01, describes procedures for replacement of the affected rotating air HPT front seal on CFM CFM56-7B model turbofan engines.

FAA’s Determination

The FAA is proposing this AD because it evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would retain all requirements of AD 2019-12-05. This proposed AD would add CFM CFM56-5B, CFM56-5C, and CFM56-7B model turbofan engines to the applicability.

Costs of Compliance

The FAA estimates that this proposed AD affects four engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replace the rotating air HPT front seal	1 work-hour X \$85 per hour = \$85	\$344,600	\$344,685	\$1,378,740

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

Regulatory Findings

The FAA has determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2019-12-05, Amendment 39-19660 (84 FR 28717, June 20, 2019), and adding the following new AD:

CFM International S.A.: Docket No. FAA-2019-0597; Product Identifier 2019-NE-05-AD.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2019-12-05, Amendment 39-19660 (84 FR 28717, June 20, 2019).

(c) Applicability

This AD applies to:

(1) CFM International S.A. (CFM) CFM56-5B1, -5B2, -5B4, -5B5, -5B6, -5B7, -5B1/P, -5B2/P, -5B3/P, -5B4/P, -5B5/P, -5B6/P, -5B7/P, -5B8/P, -5B9/P, -5B3/P1, -5B4/P1, -5B1/2P, -5B2/2P, -5B3/2P, -5B4/2P, -5B6/2P, -5B9/2P, -5B3/2P1, -5B4/2P1, -7B20, -7B22, -7B24, -7B26, -7B27, -7B22/B1, -7B24/B1, -7B26/B1, -7B26/B2, -7B27/B1, -7B27/B3, -7B20/2, -7B22/2, -7B24/2, -7B26/2, -7B27/2, -7B27A model turbofan engines with a:

(i) rotating air high-pressure turbine (HPT) front seal:

(A) with part number (P/N) 1795M36P01 or P/N 1795M36P02 and serial numbers (S/Ns) GWNDN949 through GWNSE969 or S/Ns GWN000CE through GWN0990L, not including S/Ns GWN08ND7, GWN0923A, GWN0971E, GWN098A1, GWN098W6, GWN098W8, GWN098WA, and GWN0990G, installed;

(B) that has been removed from the original HPT disk and re-assembled to a different HPT disk.

(ii) [Reserved]

(2) CFM CFM56-5C2, -5C2/4, -5C2/F, -5C2/F4, -5C2/G, -5C2/G4, -5C2/P, -5C3/F, -5C3/F4, -5C3/G, -5C3/G4, -5C3/P, -5C4, -5C4/1, -5C4/P, -5C4/1P model turbofan engines with a:

(i) rotating air HPT front seal:

(A) with P/N 1795M36P01 or P/N 1795M36P02 and S/Ns GWNDN949 through GWNSE969 or S/Ns GWN000CE through GWN0990L, not including S/Ns GWN08ND7, GWN0923A, GWN0971E, GWN098A1, GWN098W6, GWN098W8, GWN098WA, and GWN0990G, installed;

(B) that has been removed from the original HPT disk and re-assembled to a different HPT disk.

(ii) [Reserved]

(d) Subject

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

(e) Unsafe Condition

This AD was prompted by cracks found in the rotating air HPT front seal. The FAA is issuing this AD to prevent failure of the rotating air HPT front seal. The unsafe condition, if not addressed, could result in the uncontained release of the rotating air HPT front seal, damage to the engine, and damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) For all affected CFM CFM56-5B and CFM56-7B model turbofan engines:

(i) If, on July 5, 2019 (the effective date of AD 2019-12-05), the rotating air HPT front seal has 7,000 cycles or greater since being reconfigured, remove the part from service within 50 cycles after July 5, 2019 (the effective date of AD 2019-12-05), or before further flight, whichever occurs later, and replace with a part eligible for installation.

(ii) If, on July 5, 2019 (the effective date of 2019-12-05), the rotating air HPT front seal has between 6,001 and 6,999 cycles, inclusive, since being reconfigured, remove the part from service within 500 cycles after July 5, 2019 (the effective date of AD 2019-12-05), but not to exceed 7,050 cycles since being reconfigured, or before further flight, whichever occurs later, and replace with a part eligible for installation.

(iii) For all remaining CFM56-5B and CFM56-7B model turbofan engines, remove the rotating air HPT front seal from service before accumulating 6,500 cycles since being reconfigured, or within 50 cycles after the effective date of this AD, whichever occurs later.

(2) For all affected CFM CFM56-5C model turbofan engines:

(i) If, on July 5, 2019 (the effective date of AD 2019-12-05), the rotating air HPT front seal has 4,250 cycles or greater since being reconfigured, remove the part from service within 25 cycles after July 5, 2019 (the effective date of AD 2019-12-05), within 1,500 cycles since the last fluorescent penetrant inspection (FPI) of the rotating air HPT front seal, or before further flight after the effective date of this AD, whichever occurs later, and replace with a part eligible for installation.

(ii) If, on July 5, 2019 (the effective date of AD 2019-12-05), the rotating air HPT front seal has between 3,751 and 4,249 cycles, inclusive, since being reconfigured, remove the part from service within 250 cycles after July 5, 2019 (the effective date of AD 2019-12-05), before accumulating 4,275 cycles since being reconfigured, within 1,500 cycles since the last FPI of the rotating air HPT front seal, or before further flight after the effective date of this AD, whichever occurs later, and replace with a part eligible for installation.

(iii) For all remaining CFM CFM56-5C model turbofan engines, remove the rotating air HPT front seal from service before accumulating 4,000 cycles since being reconfigured, or within 50 cycles after the effective date of this AD, whichever occurs later.

(h) Definition

For the purpose of this AD, “reconfigured” occurs when a rotating air HPT front seal has been removed from the original HPT disk and re-assembled to a different HPT disk.

(i) Installation Prohibition

After the effective date of this AD, do not assemble any rotating air HPT front seal with greater than 0 cycles since new onto a HPT disk unless it is the same S/N HPT disk on which it has previously been assembled.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k)(1) of this AD. you may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

(1) For more information about this AD, contact Christopher McGuire, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7120; fax: 781-238-7199; email: chris.mcguire@faa.gov.

(2) For service information identified in this AD, contact CFM International Inc., Aviation Operations Center, 1 Neumann Way, M/D Room 285, Cincinnati, OH, 45125; phone: 877-432-3272; fax: 877-432-3329; email: aviation.fleetsupport@ge.com. You may view this referenced service information at the FAA, Engine & Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Issued in Burlington, Massachusetts, on October 18, 2019.

Robert J. Ganley,
Manager, Engine and Propeller Standards Branch,
Aircraft Certification Service.

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